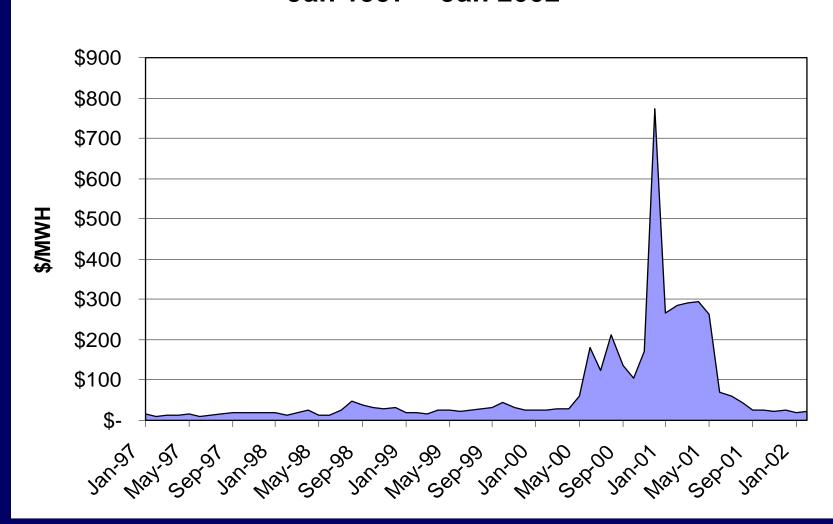
Emerald PUD's Short Mountain Landfill Gas Project

Alan Zelenka
Resources Manager
Emerald People's Utility District
April 10, 2002

Mid-C On-Peak Average Monthly Prices Jan 1997 - Jan 2002



Impacts of the Energy Crisis

- Dramatic rate increases (BPA 46%)
- California cost go from \$7B to \$70B
- Aluminum Co. bail-out
- Blaming Environmental Regs
- Hydro & fish operations impacts
- Rush to fossil fuels (gas & diesel)
- Expedited siting laws
- President Bush's energy plan
 - Coal, Nuclear, Gas and drilling in the Artic Wildlife Refuge
- Renaming of USDOE?

Reminds me of something a few guys smarter than me said:

- "If stupidity got us into this mess, why can't it get us out of it?"
 - Yogi Berra
- "I have learned that you can get a a whole lot more done with a smile and a gun that just with a smile."
 - Willy Sutton, 1930's bank robber
- "The significant problems we face cannot be solved at the same level of thinking we were at when we created them." – Albert Einstein

What is happening now?

- Wind development BPA 800 MW
- 300 MW Conservation Power Plant and stable funding fight
- OR Restructuring requires IOUs to spend 3% for conservation and renewables = \$70M
- OR public utilities BPA's C&RD
- Net Metering and WA green power offer
- Tax credits state & federal
- Drilling in the Artic Wildlife Refuge fight!
- Salmon Bi-Op funding fight!

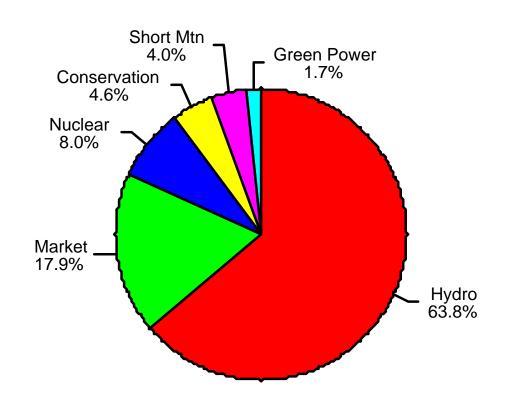
It's a real fight over salmon!



About Emerald PUD

- Electric Utility surrounding Eugene & Springfield
- Started 1983 by a vote of the people
- Serving 40,000 people, 118 MW load
- 5 member elected Board of Directors & 80 employees
- \$38 million budget, 35% for Power
- Voted the "Best Place in Oregon to Work" by Oregon Business Magazine, only governmental agency in the Top 100

Emerald PUD Resource Mix



A Green Emerald! A Gem of an Idea!

- Green Cars
- Green Building
- Green Power
 - Conservation
 - Renewables
 - Short Mt. Landfill Gas Plant

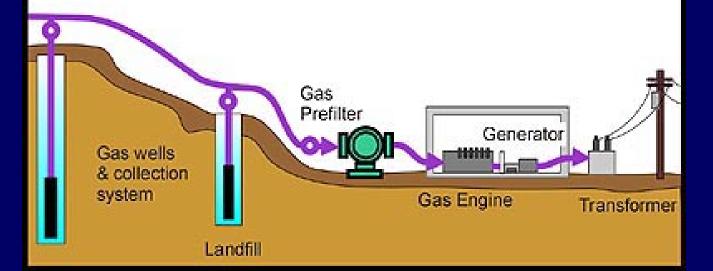
Greening our Garbage – Short Mt. Landfill Gas Plant

- Turns our useless garbage into valuable electricity. Like spinning straw into gold!
- 1,300 homes worth of power
- 10th Anniversary Last Month
- Paid for itself in 7 years; adds \$450,000 to our bottom line annually
- Reduces Global Warming & Odor
- Lane County receives a financial benefit
- Local jobs
- Public Relations benefit

How it works!

Short Mountain Landfill

A group of wells pump methane through a filtering system to 1,150-horsepower/820-KW engines. The engines run electric generators which provide power to a transformer connected to Emerald's distribution system that serves Goshen, Creswell and Pleasant Hill.



Short Mt. LFG Plant



Short Mountain Equipment

- Phase One Feb 91
- Phase Two Nov 93
- 4 Caterpillar 3516 engines
- Induction generators
- 820 KW each, 1150 HP each
- 3.2 MW Total
- 53 Vertical wells
- 16 + Horizontal wells
- Cooperative agreement with Coffin Butte

Short Mountain Costs

- Total Cost \$2.6 million
 - Generation Plant \$1.5 million (SELP loan for Phase Two)
 - Collection System \$1.1 million (Section 29 Tax Credit - BEP)

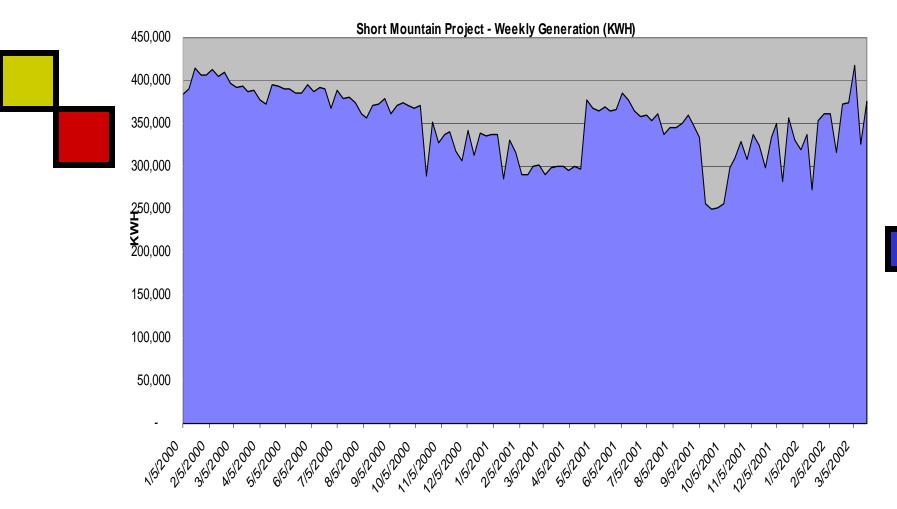
Short Mt. LFG Plant



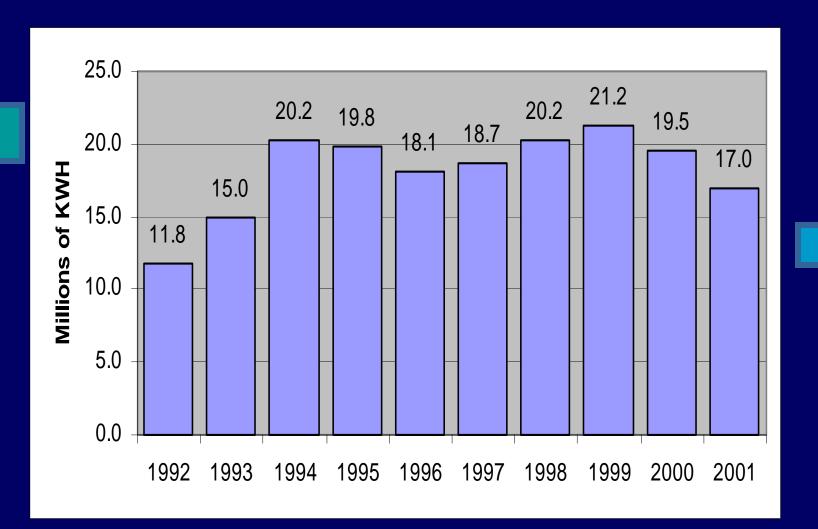
Short Mt. LFG Plant



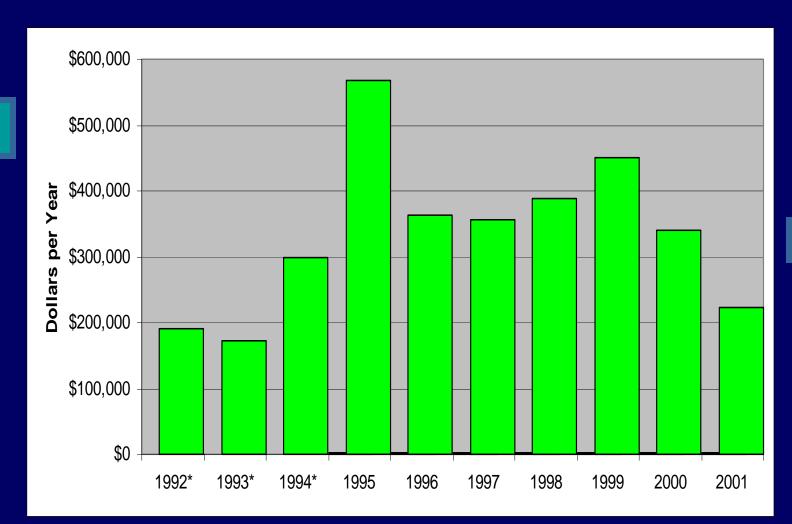
Performance 2000-2002



Short Mountain Generation



Cash Benefit per Year



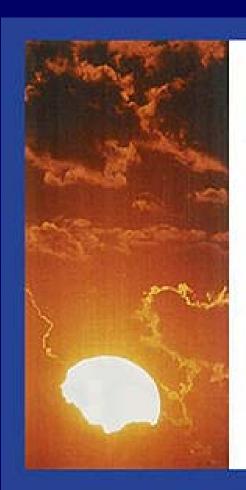
The Short Mountain Deal

- BPA Billing Credits contract
 - Alternative Cost minus BPA power cost
- Section 29 Tax Credit
 - Biomass Energy Partners paid \$1.1M
 for the collection system
- Renewable Energy Production Incentive (REPI)
- Small Scale Energy Loan Program (SELP)

2001 Costs & Revenues

16,972,800		
\$	%	cents/KWH
\$ 40,173	7%	0.24
\$ 304,419	56%	1.79
\$ 159,354	30%	0.94
\$ 36,039	7%	0.21
\$ 539,985	100%	3.18
\$ 379,611		
\$ 61,407		
\$ 308,735		
\$ 749,753		
\$ 209 768		
\$ \$ \$ \$ \$	\$ \$ 40,173 \$ 304,419 \$ 159,354 \$ 36,039 \$ 539,985 \$ 539,985 \$ 379,611 \$ 61,407 \$ 308,735 \$ 749,753	\$ % \$ 40,173 7% \$ 304,419 56% \$ 159,354 30% \$ 36,039 7% \$ 539,985 100% \$ 539,985 100% \$ 379,611 \$ 61,407 \$ 308,735 \$ 749,753

Award Winning Power Plant



SPECIAL RECOGNITION

THE U.S. DEPARTMENT OF ENERGY 1996 NATIONAL AWARDS FOR ENERGY EFFICIENCY AND RENEWABLE ENERGY

> is proud to honor Short Mountain Landfill Plant Emerald People's Willity District

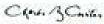
for its outstanding contributions in promoting an environmentally sustainable energy future.

October 1996



Hay 86 Long

Hard R. O'Leary Secretary



Charles B. Curtis Deputy Secretary



Christing A. Ervin Assistant Secretary let Energy Ulidency and Ecocoable Energy